

**Abstract**

An electrochemical sensor apparatus and method for measuring scale, such as mineral scale or other particulates, which deposit on the surface of pipelines or process equipment. The device has an electrochemical cell with a working electrode and fluid flow control means positioned so as to release a fluid jet onto the working electrode. The velocity of the fluid jet is controllable and is defined by the Reynolds number of the fluid when the fluid is in the fluid flow control means. Measurement of the electrical output from the electrochemical cell and the Reynolds number provide a measure of the build-up of scale on the working electrode.